conversion from temperature to kelvin

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Temperature

0	=	-273.15
Kelvin		Degree Celsius

Formula 0**K** − 273.15 = -273.1**°C**

More info Feedback

People also ask

How to convert temperature to Kelvin formula?

How do I convert Celsius to Kelvin?

How do you convert C to F easily?

Is Celsius to Kelvin 273.15 or 273?

AI Overview

The exact value for converting Celsius to Kelvin is **273.15**, though **273** is often used as a rounded shortcut.

1. Identify the Exact Conversion Formula

The official SI unit conversion requires the decimals to maintain exact scientific accuracy.

$$\mathrm{K} = {}^{\circ}\mathrm{C} + 273.15$$

2. Identify the Approximation Formula

In many introductory chemistry or physics classes, teachers use a simplified version to make mental math quicker.

$$\mathrm{K} \approx {}^{\circ}\mathrm{C} + 273$$

Comparison of Real-World Benchmarks

The slight difference impacts how specific benchmarks align on the scale: CK-12 Foundation +1

Temperature Milestone	Using Precise Value (273.15)	Using Rounded Value (273)
Absolute Zero	$-273.15\ ^{\circ}\mathrm{C}$	$-273\ ^{\circ}\mathrm{C}$
Freezing Point of Water	$0\ ^{\circ}\mathrm{C} = 273.15\ \mathrm{K}$	$0\ ^{\circ}\mathrm{C} = 273\ \mathrm{K}$
Boiling Point of Water	$100\ ^{\circ}\mathrm{C} = 373.15\ \mathrm{K}$	$100\ ^{\circ}\mathrm{C} = 373\ \mathrm{K}$

When to Use Each

- Use **273.15** if you are doing advanced laboratory work, analyzing significant figures, or completing assignments for college-level courses.
- Use **273** if you are told to do so by your instructor, or if the initial temperature values lack decimal places anyway. Quora +2

Final Answer

The officially correct and precise value is **273.15**, while **273** is an acceptable rounding shortcut for simple math problems.

Are you working on a **specific science homework problem**, or trying to determine the correct number of **significant figures** for a calculation?

Quora
Should I add 273 or 273.15 to convert to kelvin. My teacher...
When converting Celsius to Kelvin, you should add 273.15. The formula is: K = °C + 273.15 You...

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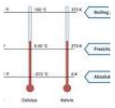

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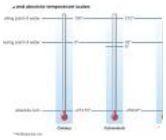
Why is 273 called absolute zero?

AI Overview

Absolute zero is called **-273.15°C** (or about -273) because it is the exact temperature where a gas's volume theoretically shrinks to zero under Charles's law, marking the absolute physical limit. At this point, atoms reach their lowest possible energy state and thermal motion nearly stops. Reddit · r/askscience +3



The Science Behind the Number

- **Gas Behavior:** Early experiments by scientists like Joseph Louis Gay-Lussac showed that gases contract by about 1/273 of their volume for every degree Celsius temperature drops. Wikipedia +1
- **The Math Limit:** If you cool a gas down by 273.15 degrees, the volume and pressure mathematically drop to zero. You cannot go any colder because no more heat energy remains to be removed. Reddit · r/askscience +3
- **Absolute Scale:** Lord Kelvin used this fixed bottom limit to create the Kelvin temperature scale, setting absolute zero as **0 K**, which sits 273.15 units below 0°C.

Reddit
Why is −273.15° Celsius Absolute Zero? What...
Absolute Zero Definition: Absolute zero, equivalent to ...

Wikipedia
Absolute zero - Wikipedia
Charles's law. From 1787 to 1802, it was determined by...

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Why is 273 added to Celsius?

Why is 0 Kelvin impossible?

Does water freeze at 273.15 K?

How long could a human survive in absolute 0?

Calculator Soup
https://www.calculatorsoup.com › Converters

Celsius to Kelvin | °C to K

Aug 1, 2025 — Celsius °C to Kelvin K Formula. **K equals °C plus 273.15**. K = °C + 273.15. How to Convert Celsius to Kelvin. Read more

Wikipedia
https://en.wikipedia.org › wiki › Conversion_of_scales_...

Conversion of scales of temperature

Kelvin Temperature conversions from **Kelvin** to **Kelvin** Celsius x K ≡ (x − 273.15) °C x °C ≡ (x + 273.15) K Fahrenheit x K ≡ (x × 9/5 − 459.67) °F x °F

National Institute of Standards and Technology (.gov)
https://www.nist.gov › pml › owm › si-units-temperature

SI Units – Temperature | NIST

Temperature Conversion (Exact) permalink ; Fahrenheit (°F), °F · (°F - 32) / 1.8 ; Celsius (°C), (°C * 1.8) + 32, °C ; **Kelvin** (K), (K - 273.15) * 1.8 + 32, K - ... Read more

RapidTables.com
https://www.rapidtables.com › convert › temperature

Celsius to Kelvin (°C to K) Conversion

Celsius is equal to 273.15. The **temperature** T in **Kelvin** (K) is equal to the **temperature** T in degrees Celsius (°C) plus 273.15: T(K) = T(°C) + 273.15

chemteam.info
https://www.chemteam.info › Convert-Celsius-Kelvin

Converting between Celsius and Kelvin

You can convert between Celsius and Kelvin like this: Kelvin = as an 'idiot indicator.' chemistry knows the true conversion value is **273.15**, but the decimal ...

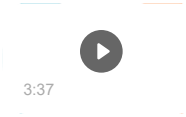
SensorsONE
https://www.sensorsone.com › kelvin-conversion-table-...

Kelvin Temperature Conversion Table for 0K to 1000K

Look up a temperature from 0 to 1000 Kelvin (K) to convert it to degrees Celsius (°C), Fahrenheit (°F) or Rankine (°R). Read more

Study.com
https://study.com · Jun 13, 2021

Interconverting Whole Degree Temperatures in Celsius ...



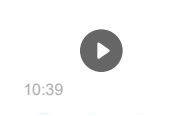
We will use the conversion formula for converting Kelvin to Celsius, which is **C = K − 273.15** . Plugging in the given temperature of 287 K as K, we get ...

ostermiller.org
https://ostermiller.org › calc › temperature

Temperature Conversion: Convert between Celsius, Kelvin ...

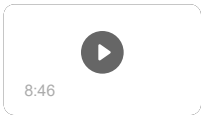
A temperature converter that uses significant figures and **can display scientific notation** when converting between the three major scales: kelvin, fahrenheit ...

Videos



How to convert Temperatures - Fahrenheit to Kelvin and ...

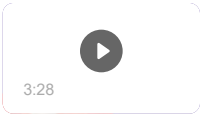
YouTube · Medicosis Perfectionalis
Oct 9, 2024



Temperature Conversions: Kelvin, Celsius and Fahrenheit

YouTube · Step by Step Science
Mar 8, 2022

7 key moments in this video



Celsius to Kelvin Temperature Conversion | The Easy Way

YouTube · Quoc Dat Phung
Oct 31, 2020

To **convert** Celsius to **Kelvin**, add 273.15 to the Celsius **temperature**. For **Kelvin** to Celsius, subtract 273.15 from the **Kelvin temperature**.

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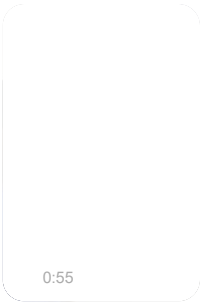
Short videos



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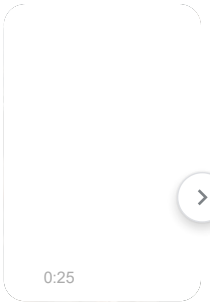

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